

REMARKS

By this amendment, claim 1 has been amended to incorporate the essential features of claim 3, which has been canceled. Claims 1, 2 and 4-17 have been amended to replace the respective phrases "characterized in that" and "characterized by comprising" with "wherein" and "further comprising." Finally, claims 4 and 12 have also been amended to recite that the plurality of optical paths are located in the vessel. Support for the changes to claims 4 and 12 can be found, *inter alia*, from page 23, line 9 through page 26, line 6 of the specification and in Figure 3. Claims 1, 2, and 4-17 are presented for further examination.

The rejection of claims 1-3, 7, 16 and 17 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over O'Neill, US 5,770,097, is respectfully traversed.

The present invention relates to a processing apparatus comprising (i) a vessel, (ii) ultraviolet light generating means, (iii) ultraviolet light receiving means, (iv) analysis control means, and (v) means for intermittently outputting the ultraviolet light and outputting an ultraviolet light presence/absence signal indicating presence/absence of the ultraviolet light. The apparatus further comprises, in pertinent part, (vi) means operatively configured to obtain a difference between (a) a light reception amount (of the ultraviolet light receiving means) obtained when the ultraviolet light is absent, and (b) a light reception amount obtained when the ultraviolet light is present on the basis of the ultraviolet light presence/absence signal. A density of radicals in an atmosphere

within the vessel is obtained from the difference. Specifically, the radical density calculating section calculates the attenuation of the ultraviolet light passing through the plasma based on the light emission amount of the ultraviolet light input in advance and the output signal from the ultraviolet light-receiving section, and uses the attenuation amount to accurately calculate the density of radicals contained in the plasma. See, e.g., page 12, lines 8-16 of the specification.

In rejecting claims 1-3, 7, 16 and 17 over O'Neill, the Office Action asserted that O'Neill's processing apparatus includes UV generating means (52), UV receiving means (66), analysis/control means (78, 86) and chopper (68) for intermittently outputting UV. Applicants agree that the apparatus of O'Neill appears to include each of these elements.

The Office Action has failed to assert, however, that O'Neill discloses or even suggests the structural features required by original claim 3. Specifically, the Office Action has failed to point out where it is taught by O'Neill to obtain a value from the difference between (a) a light reception amount obtained when the ultraviolet light is absent, and (b) a light reception amount obtained when the ultraviolet light is present, much less that the apparatus of O'Neill includes means operatively configured to obtain such a value and, in turn, obtain a density of radicals in an atmosphere within the vessel from the determined value. Indeed, Applicants submit that these features are not disclosed or suggested by O'Neill. As such, reconsideration and withdrawal of the rejection are respectfully requested.

The rejection of claims 1, 2, 7, 16 and 17 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over the Kono article entitled "Plasma Absorption Spectroscopy Using Microdischarge Light Source," the rejection of claims 4 and 5 under 35 U.S.C. § 103(a) as obvious over O'Neill in view of Pinsukanjana, US 5,936,716, the rejection of claims 6 and 7 under 35 U.S.C. § 103(a) as obvious over O'Neill in view of Yoshida, JP 06293960, the rejection of claims 4 and 8-12 under 35 U.S.C. § 103(a) as obvious over O'Neill in view of Deguchi, JP 09210909, the rejection of claim 13 under 35 U.S.C. § 103(a) as obvious over O'Neill in view of Deguchi, and further in view of Pinsukanjana, and the rejection of claims 14 and 15 under 35 U.S.C. § 103(a) as obvious over O'Neill in view of Deguchi, and further in view of Yoshida, are all respectfully traversed with respect to the amended claims.

Applicants note that claims 2 and 4-17 all depend either directly or indirectly from claim 1. As noted above, claim 1 has been amended to incorporate all of the limitations of original claim 3. Inasmuch as none of the foregoing grounds of rejection include a rejection of claim 3, these grounds of rejections have all been rendered moot by the present amendment to claim 1. Reconsideration and withdrawal of these rejections are respectfully requested.

In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned at (202) 624-2995 would be


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appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101250.55460US).

Respectfully submitted,

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